McIntosh

**Owner's Manual**

# MCC404/MCC404M Power Amplifier

MCC404
MCC404M

McIntosh Laboratory, Inc. 2 Chambers Street Binghamton, New York 13903-2699 Phone: 607-723-3512 FAX: 607-724-0549

**WARNING - TO REDUCE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.**

**NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.**

To prevent the risk of electric shock, do not remove bottom cover. No user serviceable parts inside.

# IMPORTANT SAFETY INSTRUCTIONS!

## PLEASE READ THEM BEFORE OPERATING THIS EQUIPMENT.

**General:**

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. **Warning: To reduce risk of fire or electrical shock, do not expose this equipment to rain or moisture. This unit is capable of producing high sound pressure levels. Continued exposure to high sound pressure levels can cause permanent hearing impairment or loss. User caution is advised and ear protection is recommended when playing at high volumes.**
6. Disconnect this equipment when unused for long periods of time.
7. Only use attachments/accessories specified by the manufacturer.

**Installation:**

8. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
9. Do not install near any heat sources such as radiators, heat ducts or other equipment that produce heat.
10. Do not use this equipment near water.
11. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids are placed on the equipment.
12. Do not mount this product with an unstable bracket as the equipment may fall, causing serious injury to a person, and serious damage to the product.

**Connection:**

13. Route DC power cords so that they are not likely to be pinched by items placed upon or against them, paying particular attention to the point where they enter the instrument.

**Care of Equipment:**

14. Clean only with dry cloth.
15. Do not permit objects or liquids of any kind to be pushed, spilled and/or fall into the equipment through enclosure openings.

**Repair of Equipment:**

16. Refer all servicing to qualified service personnel. Servicing is required when the equipment has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the equipment, the equipment has been exposed to rain or moisture, does not operate normally, or has been dropped.
17. Do not attempt to service beyond that described in the operating instructions. All other service should be referred to qualified service personnel.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by McIntosh or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

## McIntosh MCC404 Amplifier

The McIntosh MCC404 Power Amplifier is identical to the McIntosh MCC404M illustrated throughout this manual in every aspect except the MCC404 is without the Power Output Meters.

## Thank You

Your decision to own this McIntosh MCC404/MCC404M Four Channel Power Amplifier ranks you at the very top among discriminating music listeners. You now have "The Best." The McIntosh dedication to "Quality," is assurance that you will receive many years of musical enjoyment from this unit.

Please take a short time to read the information in this manual. We want you to be as familiar as possible with all the features and functions of your new McIntosh.

## Please Take A Moment

The serial number, purchase date and McIntosh dealer name are important to you for possible insurance claim or future service. The spaces below have been provided for you to record that information:

**Serial Number:** _____

**Purchase Date:** _____

**Dealer Name:** _____

## Technical Assistance

If at any time you have questions about your McIntosh product, contact your McIntosh dealer who is familiar with your McIntosh equipment and any other brands that may be part of your system. If you or your dealer wish additional help concerning a suspected problem, you can receive technical assistance for all McIntosh products at:

McIntosh Laboratory, Inc.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-1545
Fax: 607-723-3636

## Customer Service

If it is determined that your McIntosh product is in need of repair, you can return it to your dealer. You can also return it to the McIntosh Laboratory Service Repair department. For assistance on factory repair return procedure, contact the McIntosh Repair Department at:

McIntosh Laboratory, Inc.
2 Chambers Street
Binghamton, New York 13903
Phone: 607-723-3515
Fax: 607-723-1917

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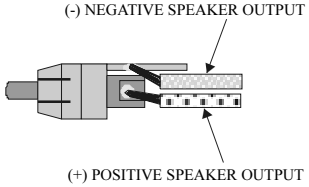
## General Notes

1. *An optional McIntosh External Subwoofer Rotary Control,* Model Number R1163, *is available from your McIntosh Dealer.*
2. *Do not connect the Amplifier Speaker Negative Terminal Connection directly to the Vehicle Chassis. Failure to observe this could result in damage to your Amplifier.*
3. *For additional connection information, refer to the owner's manual(s) for any component(s) connected to the MCC404/MCC404M Amplifier.*
4. *There is a built-in turn on delay which will mute the speaker outputs for approximately two seconds when the amplifier is turned on.*
5. *It is very important that loudspeaker cables of adequate size be used in your music system, to ensure that there will be no power loss or heating. If your loudspeaker cables are 25 feet (7.62m) or less, use at least 16 Gauge wire size or larger.*
6. *It is advisable to place an in-line fuse as close as possible to the battery.*
7. *The MCC404/MCC404M Line Level OUTPUTs are wired as a "Y" connection with the INPUTs to pass the input signals on to additional amplifiers (keep cable lengths as short as possible). The McIntosh MX406 Control Center is capable of driving several additional power amplifiers with no degradation of the signal.*
8. *The MCC404M/MCC404 can accept speaker level inputs at its Input Jacks. Refer to the diagram for connection.*




## Introduction

Now you can take advantage of traditional McIntosh standards of excellence in the MCC404/MCC404M power amplifier. Four 100 watt high current output channels will drive any high quality loudspeaker system to its ultimate performance. The MCC404/MCC404M reproduction is sonically transparent and absolutely accurate. The McIntosh Sound is "The Sound of the Music Itself."

## Performance Features

- **Power Output**

The MCC404/MCC404M consists of four separate power amplifier channels, each capable of 100 watts into 4ohm speakers with less than 0.005% distortion.

- **Four Bridgeable Channels**

The MCC404/MCC404M includes four 100 watt amplifier channels. Each pair of channels can be set in bridged configuration for 400 watts output into 4 ohm loudspeakers with less than 0.007% distortion.

- **High Current Output**

A peak output current of 20 amperes ensures that the MCC404/MCC404M will successfully drive high quality loudspeakers, such as McIntosh, for a truly exciting sound experience.

- **Equalizer and Variable Crossover Filters**

The one band equalizer has a center frequency that is variable from 40 Hz to 2,000 Hz that can be either cut or boosted ±12db. 12dB per octave high pass filters with variable corner frequencies from 5Hz to 5,000Hz and 12dB per octave low pass filters with variable corner frequencies from 50Hz to 5,000Hz.

- **Power Guard and Sentry Monitor**

All channels include the patented McIntosh Power Guard circuit that prevents the amplifier from being overdriven into clipping with its harsh distorted sound that can also damage your valuable loudspeakers. McIntosh Sentry Monitor power output stage protection circuits are present on all channels to ensure the MCC404/MCC404M will have a long and trouble free operating life.

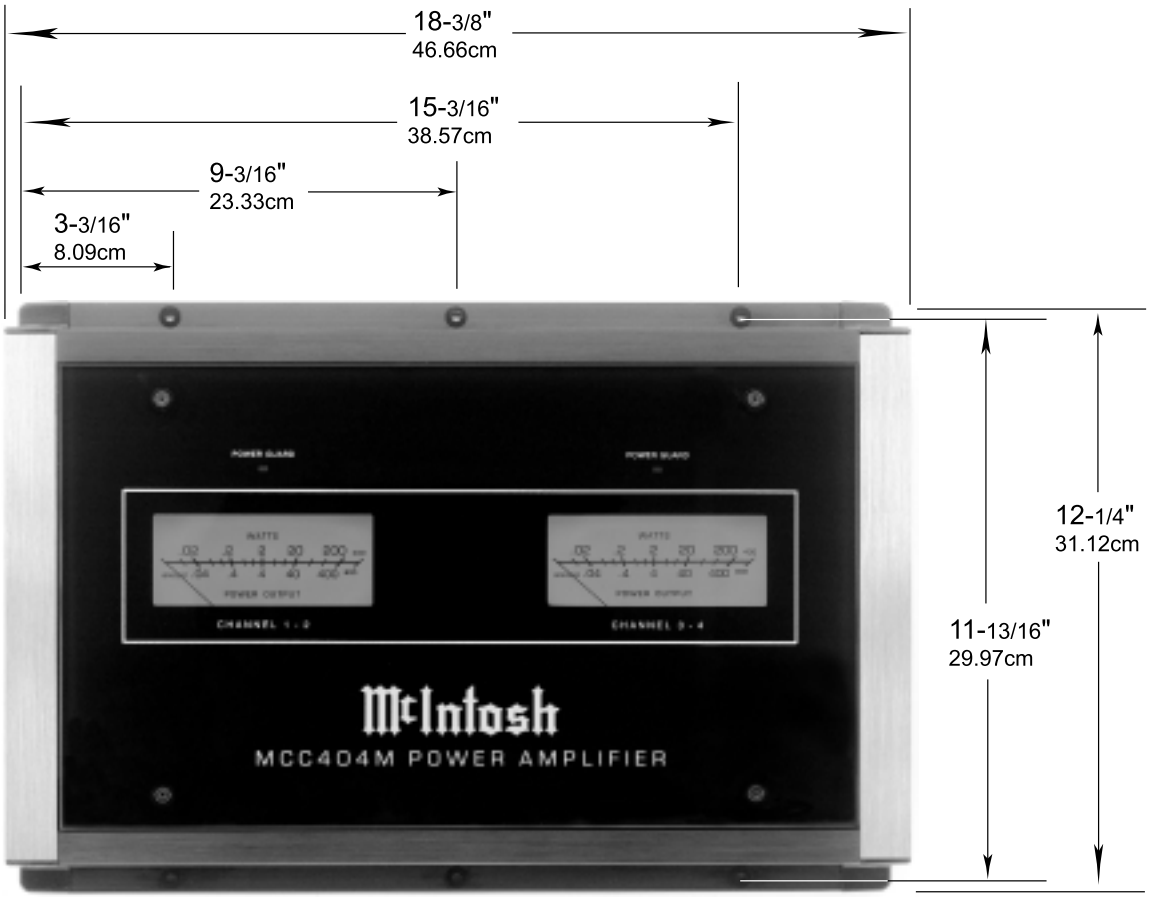
- **Speaker Protection**

If for any reason, a DC (Direct Current) voltage appears at the speaker output terminals, a built-in circuit turns off the amplifier power supplies to prevent damage to your valuable loudspeakers.

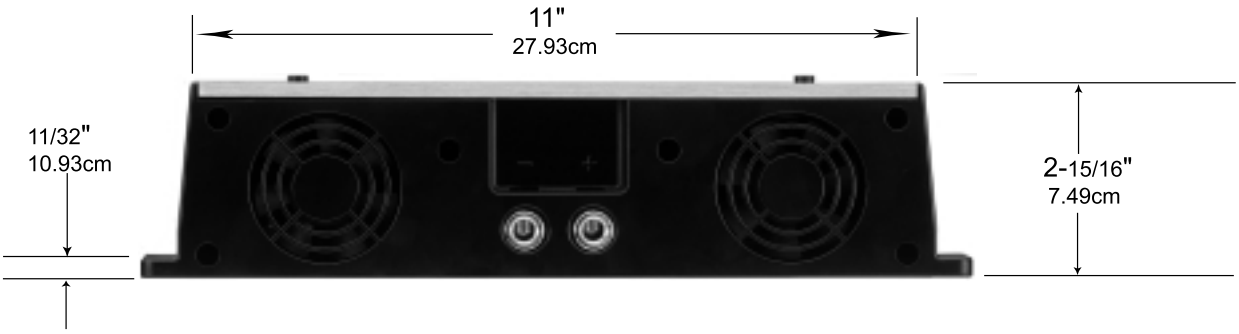
## Dimensions

The following dimensions can assist in determining the best location for your MCC404/MCC404M. There is additional information on the next page pertaining to installing the MCC404/MCC404M into your vehicle.

**Top View of the MCC404/MCC404M**




**Side View of the MCC404/MCC404M**



## Installation

It is recommended that a professional who is skilled in all aspects of installation and operation install the MCC404/ MCC404M and any associated mobile audio equipment.

**Amplifier Ventilation**

Always provide adequate ventilation for the MCC404/ MCC404M. The amplifier requires an adequate airflow into the cooling fans, which are located on the left side of the amplifier. The warm air exits the amplifier through vents on the heatsinks. See figure 1. Be sure to provide at least 1-1/2 inches clearance in front of the cooling fans and 1 inch clearance at the sides of the heatsinks.

The cooling fans are controlled by temperature sensors, attached to the interior of the tunnel. The fans are normally off. If the program material contains sustained loud passages demanding high power, the fans will turn-on to increase cooling. If cooling is still not sufficient, additional heating will shut down the amplifier internal power supply completely and the Power Guard LEDs will light. The fans will continue to run and once normal temperatures are restored, operation will resume.

The amplifier can be mounted vertically or horizontally and may be located under a seat if adequate clearance is available. The preferred installation method is to mount the amplifier directly to the vehicle main frame using the hardware supplied with the amplifier.

It is not recommended that the amplifier be mounted under the hood or in a location where it will be directly exposed to the elements. The openings in the fan housings and heat tunnel vents can allow internal components to be damaged by exposure to water, chemicals or any form of road dust or debris.

**Removing the Glass Panel**

To access the MCC404/MCC404M Controls, remove the glass panel by removing the four hex bolts with the supplied 3/32” hex key. See figure 2. Attach the supplied suction cup to the top center of the glass panel and carefully raise it high enough to put your hand under. Temporarily place the removed glass panel in a safe place, remove the suction cup and save it for future use.

**Removing the End Caps**

To access the MCC404/MCC404M Connecting Terminal Blocks, remove the Glass Panel first (the above step) and then remove the Phillips Screws holding the End Caps on both sides of the amplifier and lift the end caps off. See figure 3.

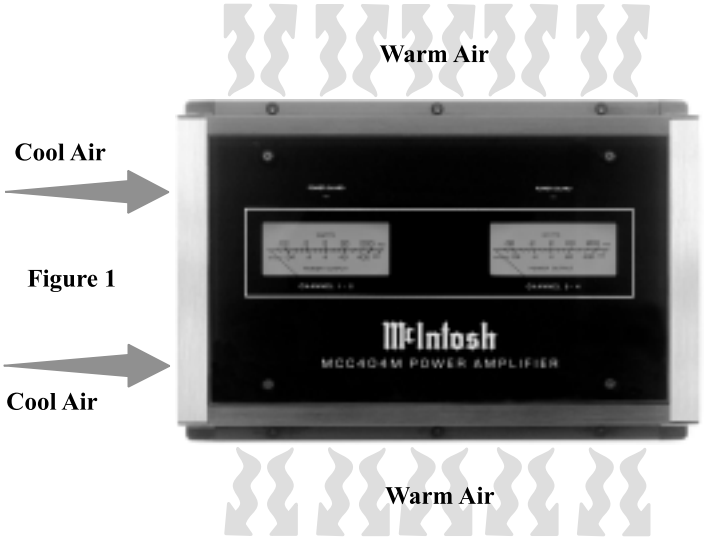



Figure 1

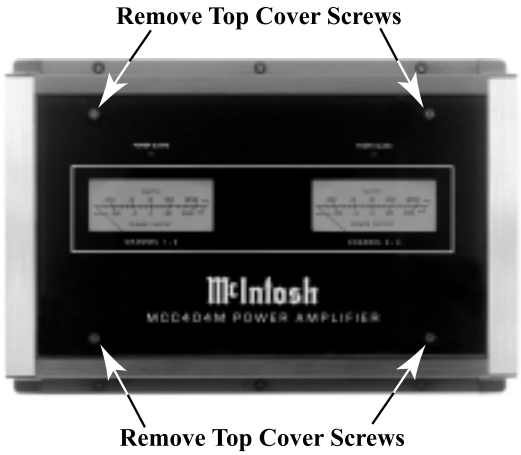



Figure 2

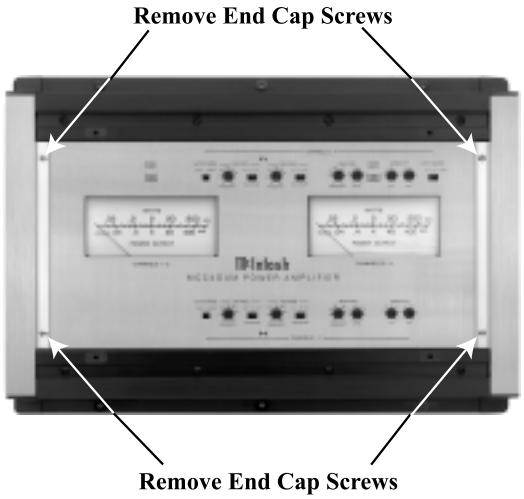
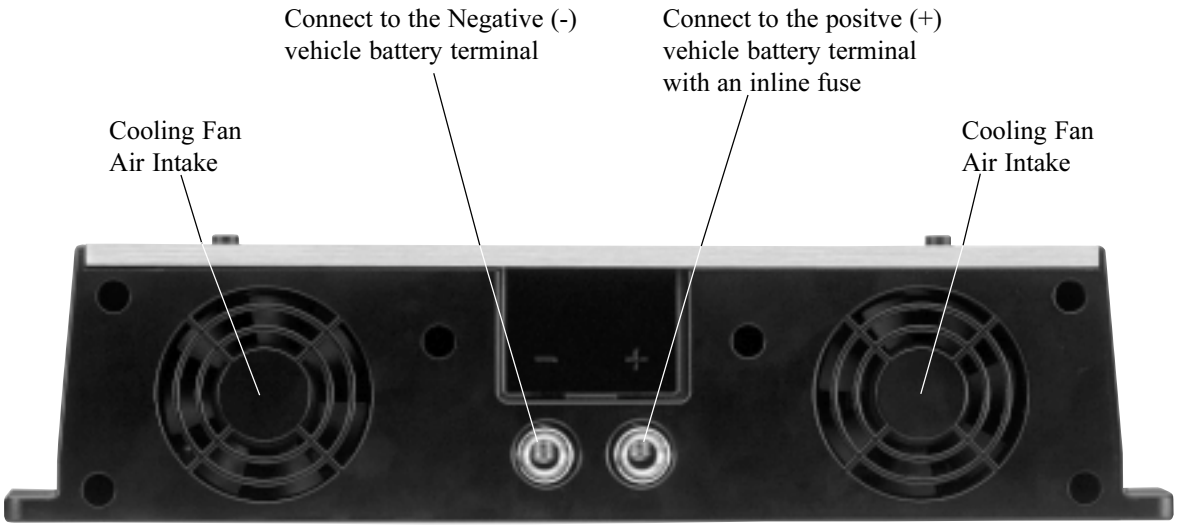
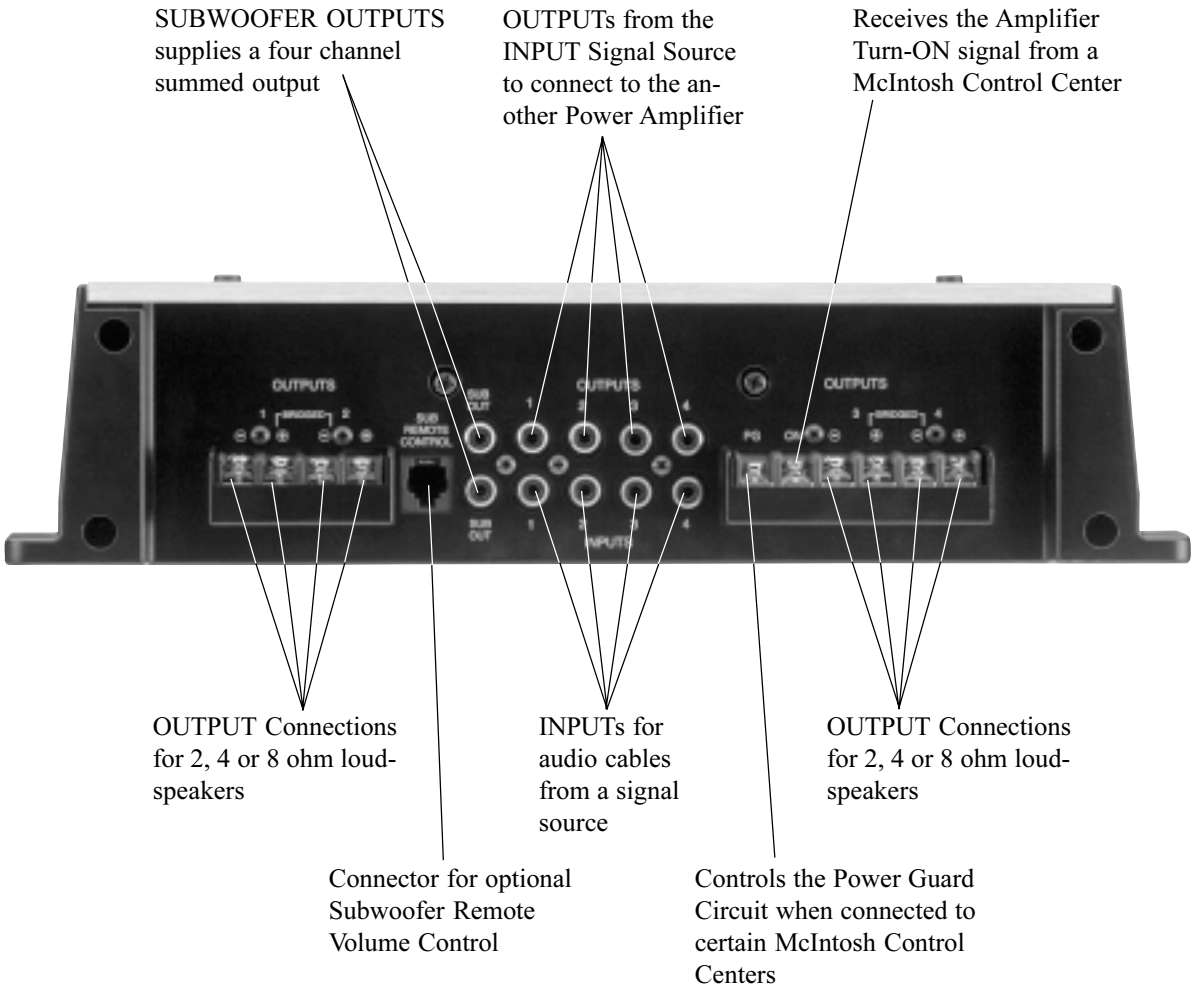



Figure 3


Connect to the Negative (-)
vehicle battery terminal
Connect to the positve (+)
vehicle battery terminal
with an inline fuse
Cooling Fan
Air Intake
Cooling Fan
Air Intake


SUBWOOFER OUTPUTS
supplies a four channel
summed output
OUTPUTs from the
INPUT Signal Source
to connect to the an-
other Power Amplifier
Receives the Amplifier
Turn-ON signal from a
McIntosh Control Center
OUTPUT Connections
for 2, 4 or 8 ohm loud-
speakers
INPUTs for
audio cables
from a signal
source
OUTPUT Connections
for 2, 4 or 8 ohm loud-
speakers
Connector for optional
Subwoofer Remote
Volume Control
Controls the Power Guard
Circuit when connected to
certain McIntosh Control
Centers

## How to Connect for Four Channels

1. Connect the cable from the Control Center Amp On to the MCC404/MCC404M ON Connector on the right side of the amplifier.

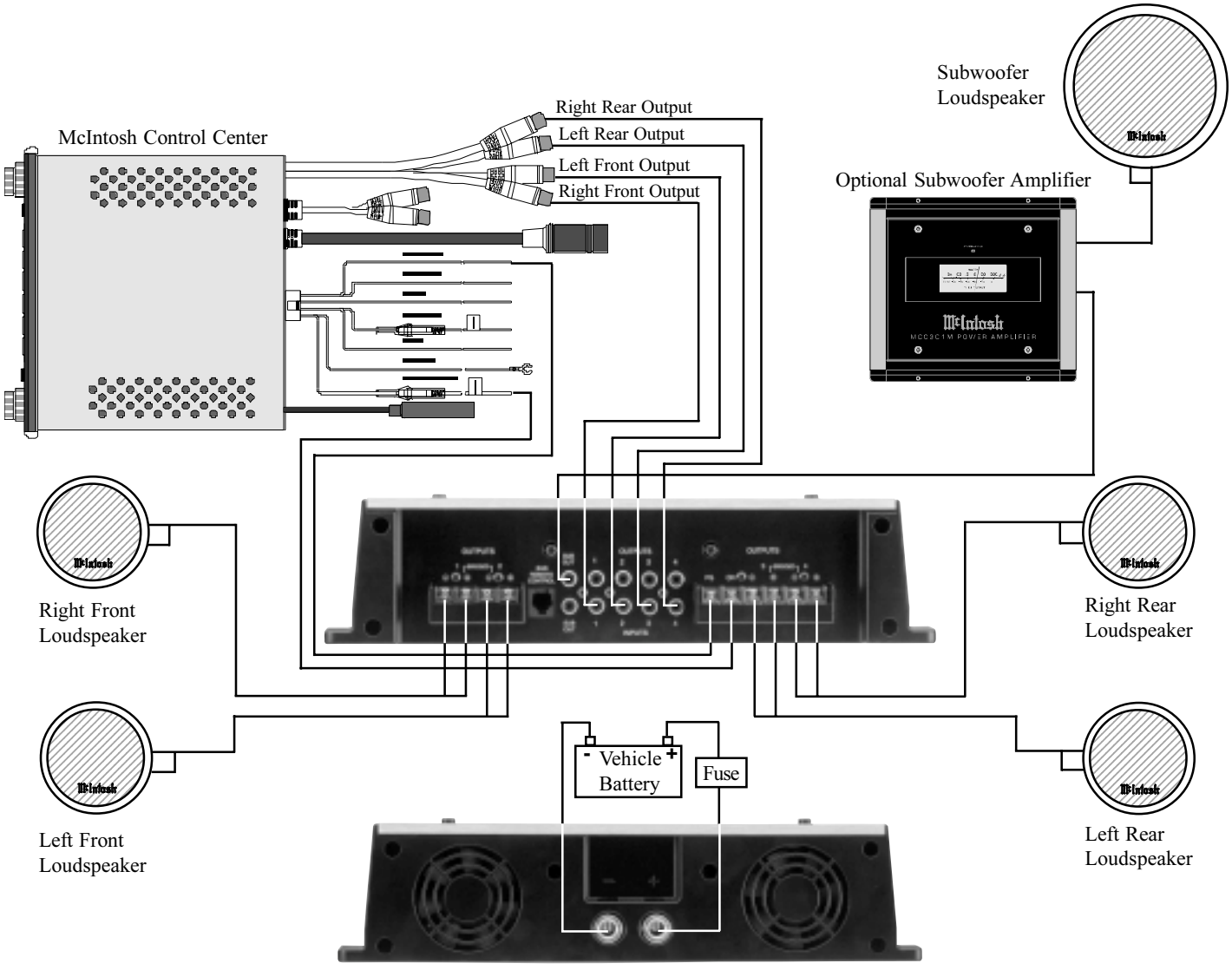
*Note: All cables should be connected to the amplifier before connecting the DC power cables to the battery.*

2. Connect a cable from a McIntosh Control Center with Power Guard to the MCC404/MCC404M PG Connector on the right side of the amplifier.
3. Connect cables (up to 12AWG) from four separate loudspeakers, to the Amplifier's Channels 1, 2, 3 and 4 Terminals, being careful to observe the correct polarities.
4. Connect audio cables from the Control Center Outputs to the MCC404/MCC404M Inputs 1, 2, 3 and 4.
5. Optional Connection allows the SUB Outputs to be connected to a separate Subwoofer Power Amplifier, regardless of the MCC404/MCC404M Operating Mode used.

*Note: The Subwoofer Outputs are line-level outputs and summed from all the Input Channels. They can be remotely controlled by connecting a cable from the SUB REMOTE CONTROL jack to the optional external rotary control.*

6. Optional Connection allows the SUB REMOTE CONTROL to be connected to the Power Amplifier, regardless of the MCC404/MCC404M Operating Mode used.
7. Connect the MCC404/MCC404M to the vehicle battery terminals using size 4 AWG (Maximum) cables.

*Note: It is advisable to place an in-line fuse of a suitable size as close as possible to the battery.*



## How to Connect for Three Channels

1.Connect the AMP ON wire from the Control Center Amp ON to the MCC404/MCC404M ON connector on the side of the amplifier.

*Note: All cables should be connected to the amplifier before connecting the DC power cables to the battery.*

2.Connect a cable from a McIntosh Control Center with Power Guard to the MCC404/MCC404M PG connector on the side of the amplifier.

3. Connect speaker cables (up to 12AWG) from a tweeter to the amplifier's channel 1 output terminals.

4. Connect speaker cables from a mid-range loudspeaker to the amplifier's channel 2 output terminals, being careful to observe the correct polarities.

*Note: The connecting information shown here is for a single channel of an audio system. For the other channel, connect a second MCC404/MCC404M and loudspeakers in a similar manner.*

5. Connect speaker cables from one woofer to the amplifier's channels 3&4 BRIDGED output terminals, being careful to observe the correct polarities.

6. Connect an audio cable from one of the control center outputs to the input of an external crossover.

7. Connect an audio cable from the external crossover TWEETER output to the MCC404/MCC404M channel 1 input.

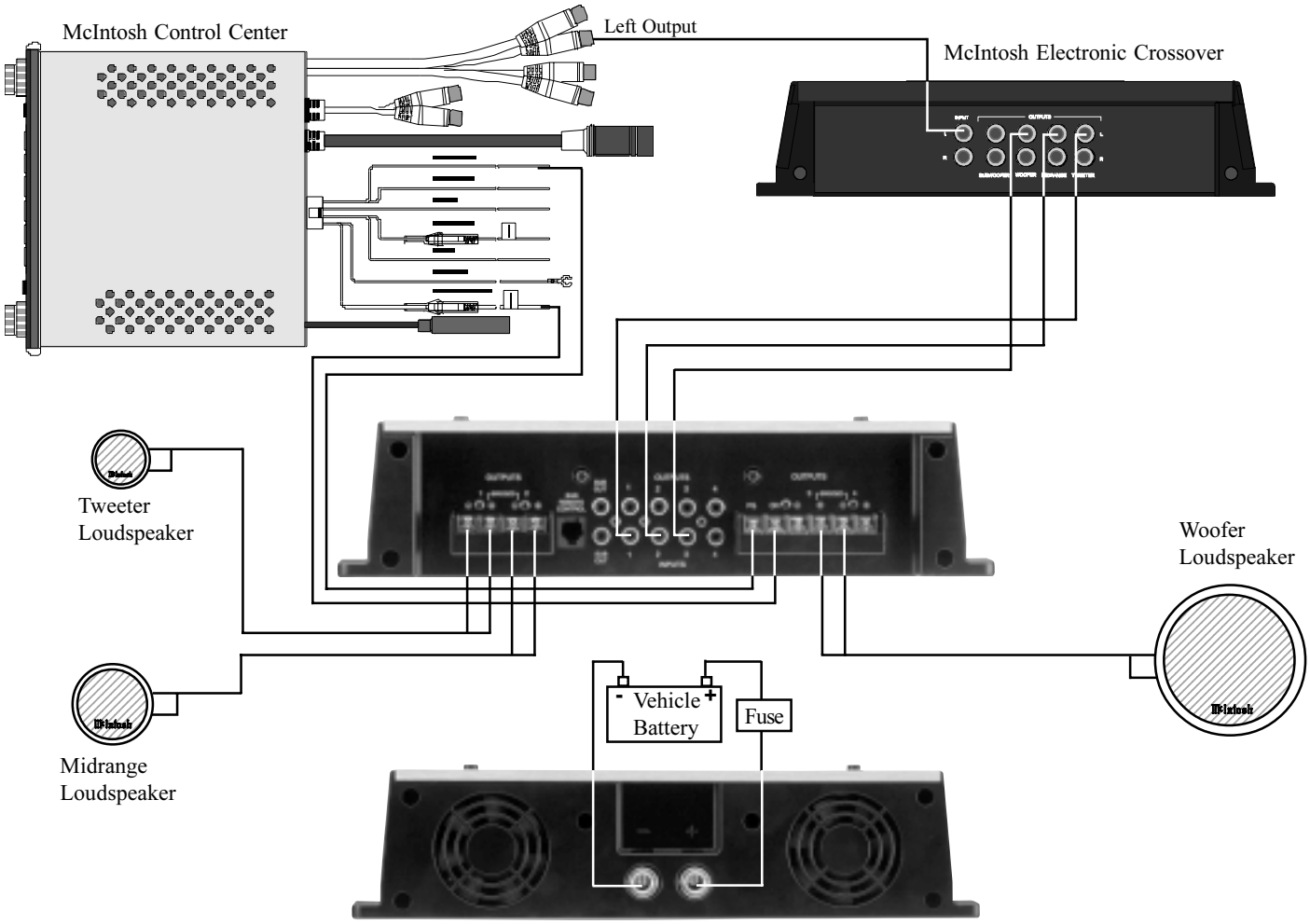
8. Connect an audio cable from the external crossover MID-RANGE output to the MCC404/MCC404M channel 2 input.

9. Connect an audio cable from the external crossover WOOFER output to the MCC404/MCC404M channel 3 input.

*Note: Do not connect a cable to the MCC404/MCC404M channel 4 input.*

10. Connect the MCC404/MCC404M to the vehicle battery terminals using size 4 AWG (Maximum) cables.

*Note: It is advisable to place an in-line fuse of a suitable size as close as possible to the battery.*



## How to Connect for Two Channels

1. Connect the cable from the Control Center Amp On to the MCC404/MCC404M ON Connector on the right side of the amplifier.

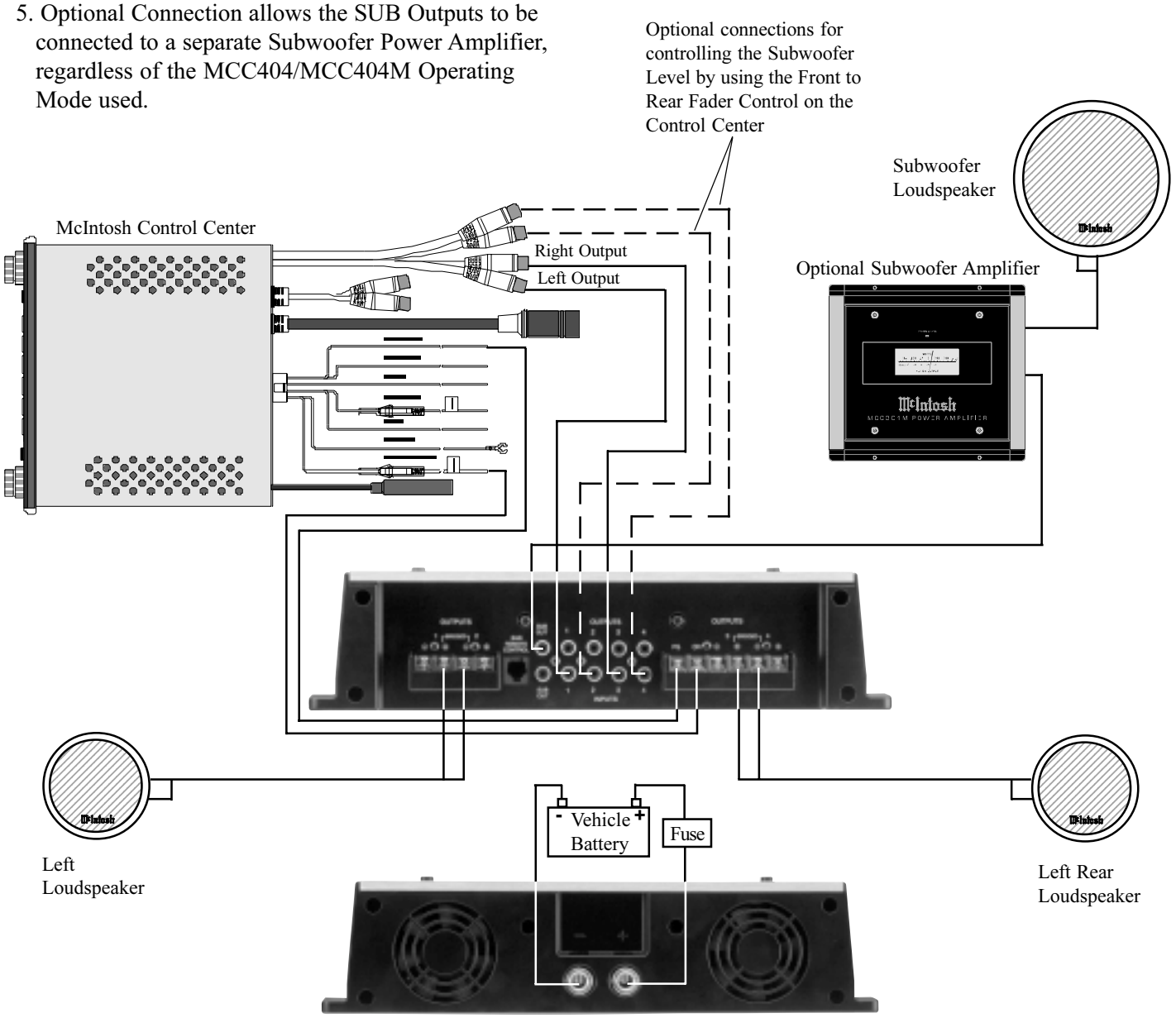
*Note: All cables should be connected to the amplifier before connecting the DC power cables to the battery.*

2. Connect a cable from a McIntosh Control Center with Power Guard to the MCC404/MCC404M PG Connector on the right side of the amplifier.
3. Connect cables (up to 12AWG) from two separate loudspeakers, one to the Amplifier Bridged Channels 1 and 2 Terminals, and one to Bridged Channels 3 and 4 Terminals, being careful to observe the correct polarities.
4. Connect audio cables from the Control Center Outputs to the MCC404/MCC404M Inputs 1 and 3.
5. Optional Connection allows the SUB Outputs to be connected to a separate Subwoofer Power Amplifier, regardless of the MCC404/MCC404M Operating Mode used.

*Note: The Subwoofer Outputs are line-level outputs and summed from all the Input Channels. They can be remotely controlled by connecting a cable from the SUB REMOTE CONTROL jack to the optional external rotary control.*

6. Optional Connection allows the SUB REMOTE CONTROL to be connected to the Power Amplifier, regardless of the MCC404/MCC404M Operating Mode used.
7. Connect the MCC404/MCC404M to the vehicle battery terminals using size 4 AWG (Maximum) cables.

*Note: It is advisable to place an in-line fuse of a suitable size as close as possible to the battery.*



## How to Connect with Subwoofer Channel

1. Connect the cable from the Control Center Amp On to the MCC404/MCC404M ON Connector on the right side of the amplifier.

*Note: All cables should be connected to the amplifier before connecting the DC power cables to the battery.*

2. Connect a cable from a McIntosh Control Center with Power Guard to the MCC404/MCC404M PG Connector on the right side of the amplifier.
3. Connect cables (up to 12AWG) from two separate upper range loudspeakers, to the Amplifiers' Channels 1 and 2 Terminals, and subwoofer loudspeaker to Bridged Channels 3 and 4 Terminals, being careful to observe the correct polarities.
4. Connect audio cables from the Control Center Outputs to the MCC404/MCC404M Inputs 1 and 2.
5. Optional Connection allows the SUB Outputs to be connected to a separate Subwoofer Power Amplifier, regardless of the MCC404/MCC404M Operating Mode used.

*Note: The Subwoofer Outputs are line-level outputs and summed from all the Input Channels. They can be remotely controlled by connecting a cable from the SUB REMOTE CONTROL jack to the optional external rotary control.*

6. Optional Connection allows the SUB REMOTE CONTROL to be connected to the Power Amplifier, regardless of the MCC404/MCC404M Operating Mode used.
7. Connect the MCC404/MCC404M to the vehicle battery terminals using size 4 AWG (Maximum) cables.

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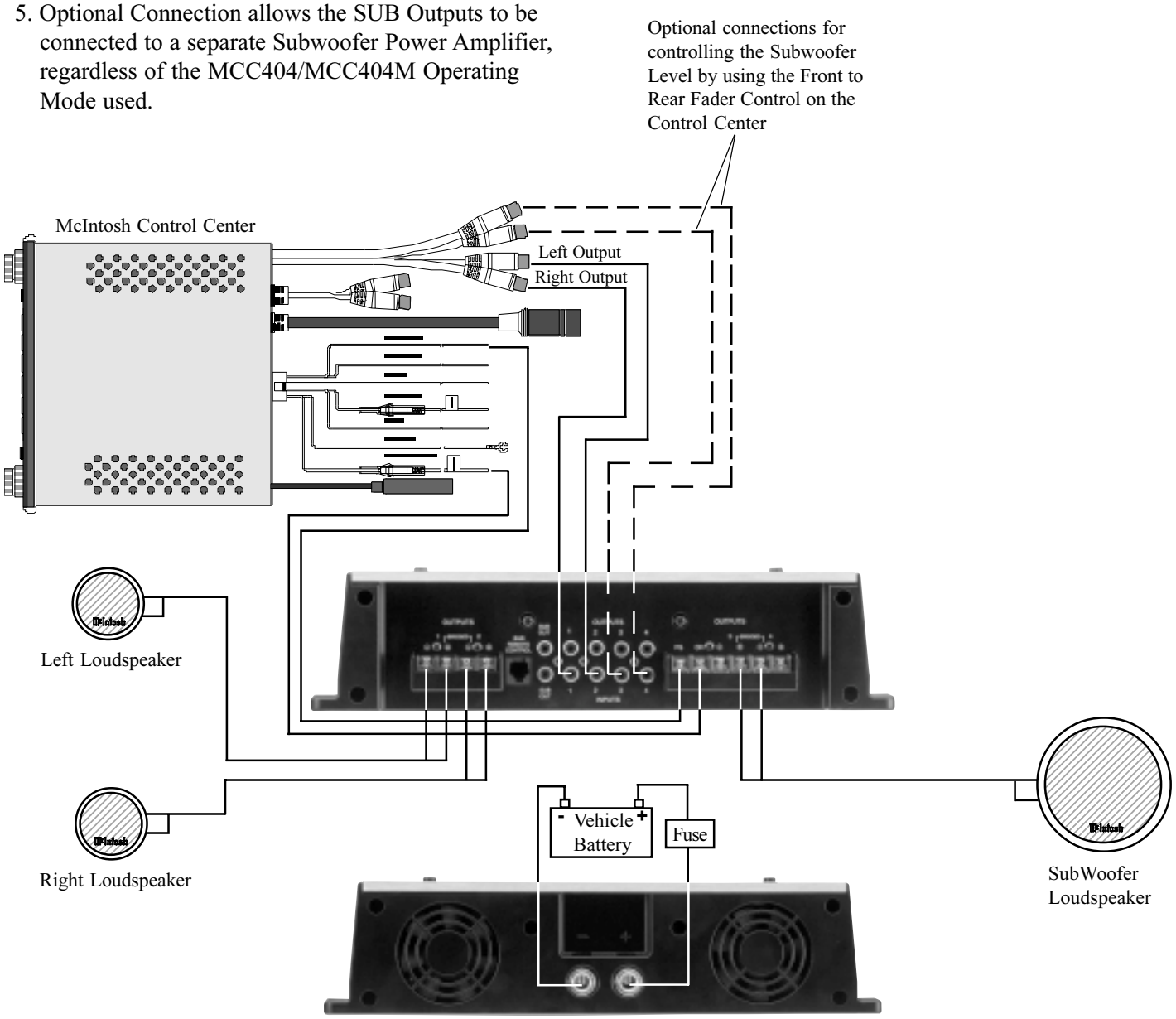


CH 3/4 LOW PASS Filter Switch and Control selects the high roll-off frequency or flat frequency response

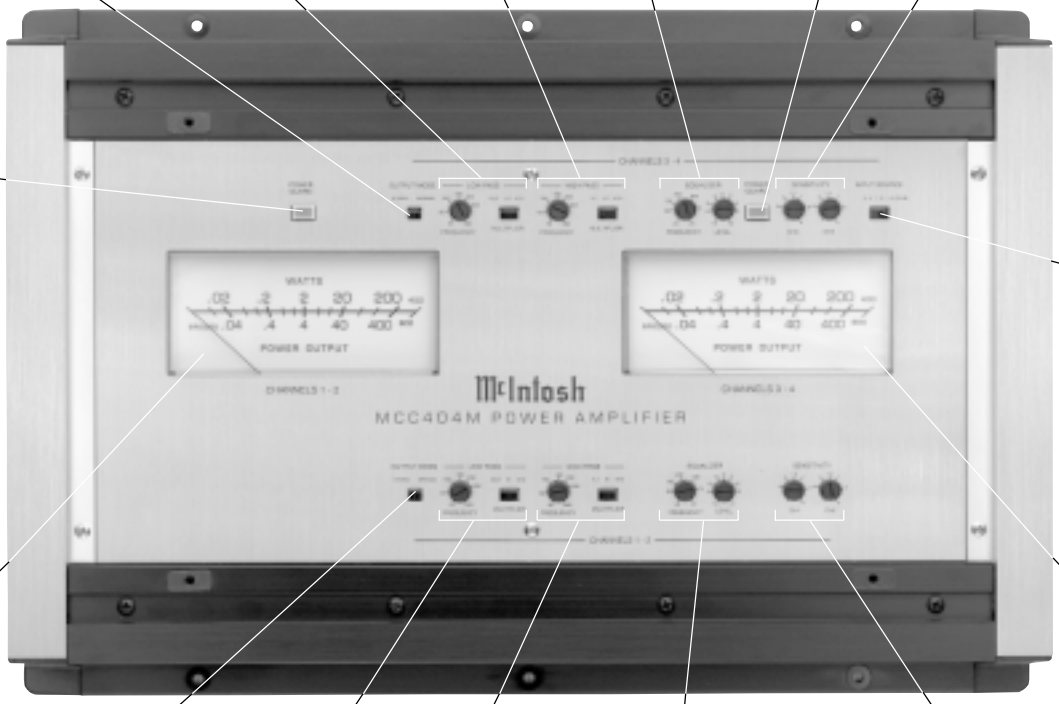
CH 3/4 EQUALIZER Controls select the Frequency and the Level of Boost or Cut at the Center Frequencies

CH 3-4 SENSITIVITY Individual Input Sensitivity Controls for Channels 3 and 4

CH 3/4 MODE Switch selects STEREO or BRIDGE mode of operation

CH 3/4 HIGH PASS Filter Switch and Control select the low frequency roll-off rate or flat frequency response

POWER GUARD LED lights when the Power Guard Circuit activates for Amplifier Channels 3 or 4




POWER GUARD LED lights when the Power Guard Circuit activates for Amplifier Channels 1 or 2

INPUT SOURCE Switch for Channels 3&4 selects either CHs 1&2, 3&4 or Subwoofer (Sum of CHs 1, 2, 3, & 4)

METER indicates Channels 1 and 2 Power Output

METER indicates Channels 3 and 4 Power Output

CH 1/2 MODE Switch selects STEREO or BRIDGE mode of operation

CH 1/2 HIGH PASS Filter Switch and Control select the low roll-off frequency response

CH 1-2 SENSITIVITY Individual Input Sensitivity Controls for Channels 1 and 2

CH 1/2 LOW PASS Filter Switch and Control select the high roll-off frequency response

CH 1/2 EQUALIZER Controls select the Frequency and the Level of Boost or Cut at the center frequencies

## Introduction

The McIntosh MCC404/MCC404M is a highly versatile amplifier that can be configured in many ways. This manual gives examples of some of the most common configurations. The best way to set equalization and filter controls is through the use of a real-time spectrum analyzer and the expertise of a professional installer. This manual will guide you through the basic operation, however we suggest you refer to your dealer for further information on the use of this unit. To access the Amplifier Controls and Switches refer to "Removing the Glass Panel" located on page 6 of this Owners Manual.

**Low Pass Filter**

The LOW PASS Filter Controls select the center frequencies at which the filters operate for all four amplifier channels. Any given frequency number is selected through the combined settings of the FREQUENCY and MULTIPLIER controls. The low-pass filters multiplier switches have settings of X1 (frequency times one), X10 (frequency times ten). Refer to figure 4.

Figure 4

*Example: A frequency 1,500 Hz would be attained by setting the FREQUENCY Control to 150 and setting the MULTIPLIER Switch to X10 (150 times 10 equals 1,500).*

**High Pass Filter**

The HIGH PASS Filter Controls select the center frequencies at which the filters operate. Any given frequency number is selected through the combined settings of the FREQUENCY and MULTIPLIER controls. The high-pass filter multiplier switches have settings of X.1 (frequency times one-tenth), X1 (frequency times one), X10 (frequency times ten). Refer to figure 5.

Figure 5

*Example: A frequency of 15 Hz would be selected by setting the FREQUENCY Control to 150 and the MULTIPLIER Switch to X.1 (150 times .1 equals 15).*

**Equalizer**

Each of the two pairs of channels (1 and 2, 3 and 4) is equipped with an equalizer. The equalizer is not intended to act as a *tone* control. The one-band equalizer is best utilized as a notch filter to reduce a peak (as located by real-time analysis with an RTA) in your system's frequency response. If you are attempting to equalize a system without RTA data, play music you are familiar with, set the equalizer LEVEL control to +12 and slowly turn the FREQUENCY control to get a feel for where in the musical spectrum the frequency numbers are located. Then set the LEVEL control back to 0 and listen to the system to determine its equalization needs. Subtle adjustments are best and cutting usually sounds better than boosting. Refer to figure 6.

Figure 6

**Input Sensitivity Controls**

The SENSITIVITY controls allows the setting of the input sensitivity, of all four amplifier channels, to provide an ideal match for the signal source being used. The most desirable setting allows the control center to have a useful volume range as wide as possible from loud to soft. A good place to start is to set the amplifier's SENSITIVITY Control to the output voltage called out in your control center owner's manual. The Level controls can be set for any sensitivity from .5 volts to 8 volts. Refer to figure 7.

Figure 7

*Note: When used in conjunction with a McIntosh control center, you may find setting the Sensitivity controls to the center detent (1.5V) works best.*

**Power Output Meters (MCC404M only)**

There are two illuminated watt meters on the glass panel, one displaying combined power output for channels 1&2 and one displaying combined power output for channels 3&4. The upper scale shows power in watts during normal operation, the lower scale displays power in watts for bridged operation. All displays show power into a 4 ohm load. The meters respond to all the musical information being produced by the amplifier. They indicate to an accuracy of at least 95% of the power output with only a single cycle of a 2000Hz tone burst. Refer to figure 8.

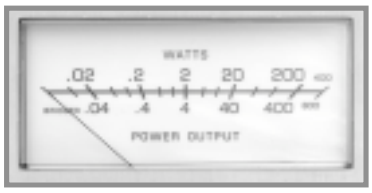



Figure 8

## How to Operate Four Channel Mode

In the 4 Channel Operating Mode, all channels operate as independent 100 watt amplifiers. A typical four channel application is to drive a pair full range loudspeakers in the front section of a vehicle and a second pair in the rear. Refer to figures 9 and 10.

**Power**
The MCC404/MCC404M will turn on or off when the Control Center turns On or Off.

*Note: There must be an Amp ON connection between the MCC404/MCC404M and the signal source unit in order for the amplifier power turn On and Off to function.*

**Input Source**
Set the Channel 3&4 INPUT SOURCE Switch to the 3, 4 position for 4 Channel Mode.

**Sensitivity Controls**
The Sensitivity Controls allow setting of the input level of all four amplifier channels to provide an ideal match for the signal source being used.

**Output Mode**
Set both OUTPUT MODE Switches to the STEREO position to configure the amplifier for 4 channel operation.

**High Pass Filter**
Set the High Pass Filters' Frequency Controls to 50 and the MULTIPLIER Switch to X.1. This will pass the full audible spectrum yet filter out power-robbing sub-sonics below 5 Hz.

**Low Pass Filter**
Set the Low Pass Filter Switches to the OUT position since both channels are operating at full frequency range.

## How to Operate Three Channel Mode

In the Three Channel, Tri-amp Mode, channel 1 operates as a 100 watt amplifier for the tweeter, channel 2 operates as a 100 watt amplifier for the mid-range and bridged channels 3&4 operate as a 400 watt amplifier driving a woofer.

**Power**
The MCC404/MCC404M will turn on or off when the control center turns On or Off.

*Note: There must be an Amp ON connection between the MCC404/MCC404M and the signal source in order for the amplifier turn On and Off to function.*

**Input Source**
Set the Channel 3-4 INPUT SOURCE Switch to 3, 4.

**Sensitivity Controls**
The Sensitivity Controls allow setting the input level of amplifier channels 1, 2 and 3 to provide an ideal match for the signal source being used. Sensitivity Control 3 adjusts the woofer level balance and Sensitivity Control 4 has no effect.

**Output Mode**
Set the Channels 1-2 OUTPUT MODE Switch to the STEREO position. Set the Channels 3-4 OUTPUT MODE Switch to the BRIDGED position.

**High Pass Filter**
Set both the High Pass Filters' FREQUENCY Controls to 50 and the MULTIPLIER Switches to X.1.

**Low Pass Filter**
Set the Low Pass Filter Switches to OUT.

Figure 9

Figure 10

## How to Operate in Two Channel Mode

In the Two Channel Mode channels 1 and 2, and channels 3 and 4 operate in bridged configuration as a pair of full frequency range 400 watt amplifiers. A typical application is use of a more powerful amplifier for stereo reproduction. Refer to figures 9 and 10.

**Power**
The MCC404/MCC404M will turn on or off when the Control Center turns On or Off.

*Note: There must be an Amp ON connection between the MCC404/MCC404M and the signal source unit in order for the amplifier power turn On and Off to function.*

**Input Source**
Set the channel 3-4 INPUT SOURCE Switch to 3, 4.

**Sensitivity Controls**
The Sensitivity Controls 1 and 3 allow the setting of input level of both bridged pairs of amplifier channels to provide an ideal match for the signal source being used.

**Output Mode**
Set both the channel 1-2 OUTPUT MODE Switch and the channel 3-4 OUTPUT MODE Switch to the BRIDGED position to configure the amplifier for two channel operation.

**High Pass Filter**
Set the High Pass Filters' Frequency Controls to 50 and the MULTIPLIER Switch to X.1. This will pass the full audible spectrum yet filter out power robbing sub-sonics below 5 Hz.

**Low Pass Filter**
Set the Low Pass Filter Switches to the OUT position since both channels are operating at full frequency range.

## How to Operate in Subwoofer Mode

In the Sub Woofer Operating Mode, channels 1&2 operate as independent 100 watt amplifiers, driving two midrange and high frequency or full range speakers. Channels 3&4 operate in Bridged Mode as a single 400-watt amplifier, driving a low frequency speaker. A typical Sub application is to drive two upper-range loudspeakers and one woofer or subwoofer. Refer to figures 9 and 10.

.

**Power**
The MCC404/MCC404M will turn On or Off when the Control Center turns on or off.

*Note: There must be an Amp ON connection between the MCC404/MCC404M and the signal source unit in order for the amplifier power turn On and Off to function.*

**Input Source**
Set the channel 3&4 INPUT SOURCE Switch to the 1-4 (SUB) position to send the summed signals from input 1&2 to the bridged channels 3&4 for low-pass filtering.

**Sensitivity Controls**
The Sensitivity Controls allow setting the input level of amplifier channels 1, 2 and 3 to provide an ideal match for the signal source being used. Sensitivity Control 3 adjusts the subwoofer level balance and Sensitivity Control 4 has no effect.

**Output Mode**
Set the channels 1-2 OUTPUT MODE Switch to the STEREO position and the channels 3-4 OUTPUT MODE Switch to the BRIDGED position to operate in the three channel bi-amp mode.

**High Pass Filter**
Set the channel 3-4 High Pass Filters' FREQUENCY Control to 50 and the MULTIPLIER Switch to X.1. Set the channel 1-2 High Pass filter Frequency Controls the frequency above which you wish to send to the upper range speakers.

*Example: To send frequencies above 200Hz to the upper range speakers, the FREQUENCY Control to 200 and the MULTIPLIER Switch to X1.*

**Low Pass Filter**
Set the channel 1-2 low pass filter to OUT. Set the channel 3-4 Low Pass Filter controls to the frequency below which you wish to send to the subwoofer.

*Example: To send frequencies below 200Hz to the subwoofer, set the FREQUENCY Control to 200 and the MULTIPLIER Switch to X1.*

## How to Replace the Fuses

If the MCC404/MCC404M produces no sound, there is no Illumination of the Nomenclature on the Top Glass Panel, and the power connections seem secure, one or more of the Amplifier Fuse(s) may have failed. Under normal operating conditions your amplifier's fuses should not fail. Failure of a fuse is usually an indication of a problem. Replacing the fuse, if there is problem in the amplifier, may incur a risk of further damage. Refer to figures 11, 12 and 13.

***Caution: Disconnect the Amplifier from the Vehicle Battery ( or DC Power Supply) as Potentially Dangerous Currents exist inside the amplifier.***

1. Before accessing fuses, disconnect both the positive and negative power cables from the DC input terminals on the left side of the amplifier using a 5/32" hex key.
2. Remove the Top Glass Panel by first removing the four hex bolts with the supplied 3/32" hex key.
3. To remove the Top Glass Panel, attach the supplied suction cup to the top center of the glass panel and carefully raise it high enough to put your hand under. Temporarily place the removed glass panel in a safe place, remove the suction cup and save it for future use.
4. Remove the Phillips Screws holding the End Caps on both sides of the amplifier and lift the end caps off.
5. Remove the two Phillips screws located between the low and high pass filter controls.
6. Remove all 12 crossover, equalizer and sensitivity knobs.
7. Remove the Gold Faceplate Control Panel.
8. Remove the fuses with needle nose pliers, taking care to avoid hitting the wattmeter during removal. Do not lever the pliers against the wattmeter.

*Note: To determine if the fuse has failed, examine the link between the two fuse legs to see if it has a break in it.*

9. Replace the fuse with one of the same type and rating as unauthorized substitutions may prove hazardous to you and the amplifier.
10. When reinserting the fuse, set it in place with the pliers, then push it the rest of the way in with your finger to avoid having the pliers slip and hit the circuit board.
11. Re-install the Gold Faceplate Control Panel and all 12 crossover, equalizer and sensitivity knobs.
12. Re-connect the power cables to the vehicle battery.

If the replacement fuse(s) fails again, have the amplifier repaired at a McIntosh Service Center.

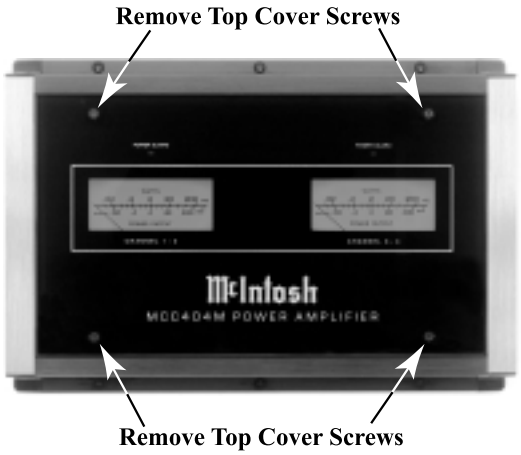



**Figure 11**

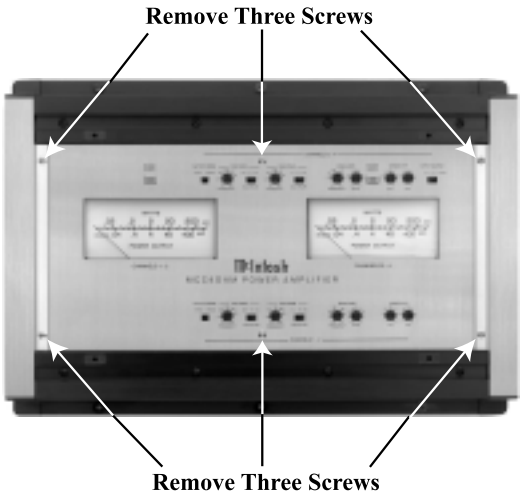



**Figure 12**

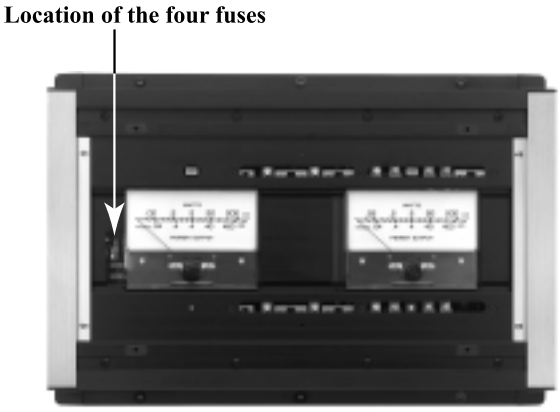
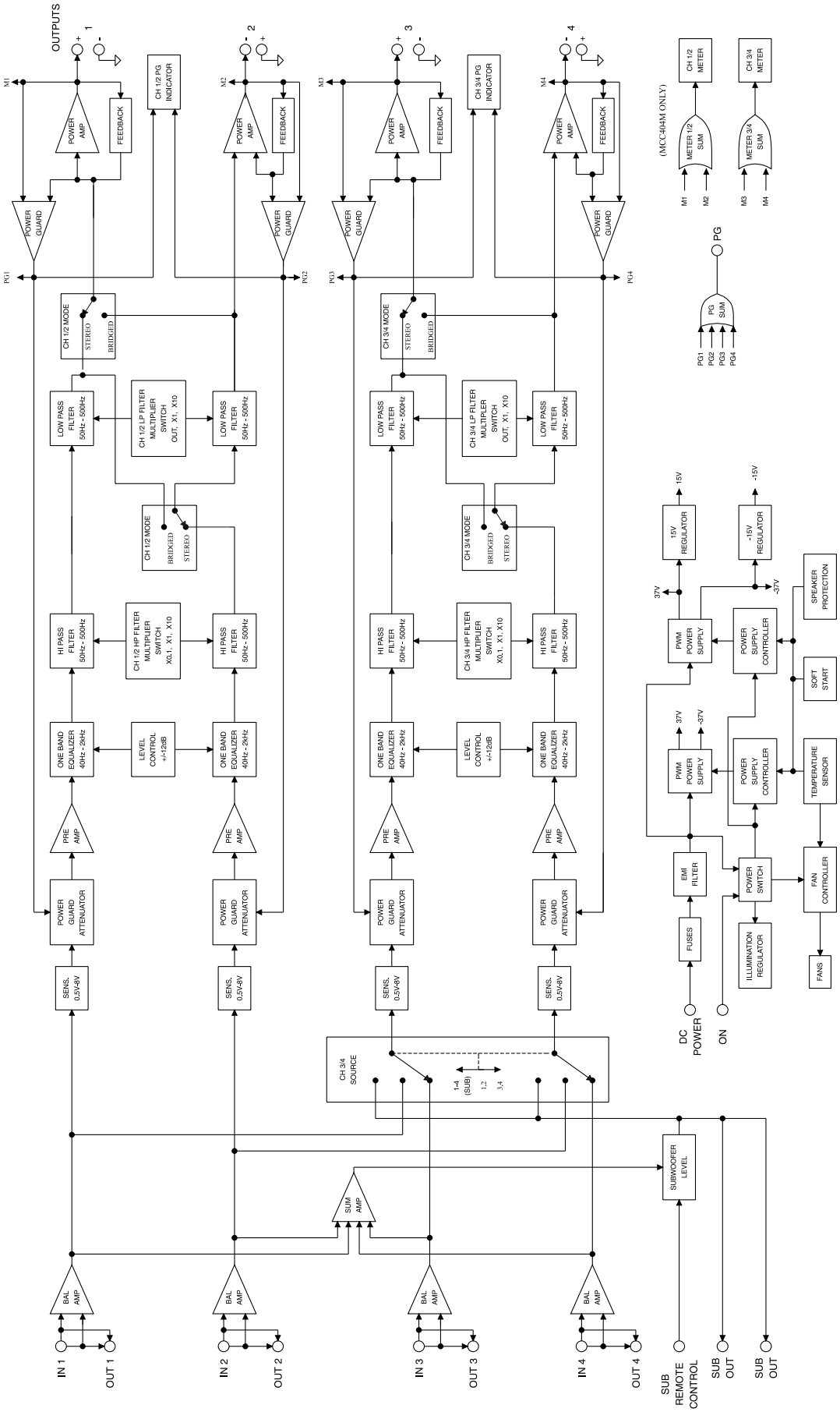



**Figure 13**

## MCC404/MCC404M Block Diagram



## Specifications

**Power Output Per Channel**
100 watts into 4 ohm loads and 200 watts into 2 ohm loads is the minimum sine wave continuous average power output per channel all four channels operating.

**Power Output Bridged**
400 watts into 4 ohm loads is the minimum sine wave continuous average power output.

**Rated Power Band**
20Hz to 20,000Hz

**Total Harmonic Distortion**
Maximum Total Harmonic Distortion at any power level from 250 milliwatts to rated power output is:
0.005% for 4 ohm loads
0.007% for 2 ohm loads
0.007% for Bridged Mode with 4 ohm loads

**Dymanic Headroom**
1dB

**Frequency Response**
+0, -0.25dB from 20Hz to 20,000Hz
+0, -3dB from 10Hz to 50,000Hz

**Sensitivity**
0.5Volts

**A-Weighted Signal To Noise Ratio**
105dB (1.5V)

**One Band Equalizer**
Center Frequency is variable from 40Hz to 2,000Hz, level variable ±12db, Q fixed at 2

**High Pass Filter**
Variable from 5Hz to 5,000Hz, 12 db per octave

**Low Pass Filter**
Variable from 50Hz to 5,000Hz, 12 db per octave (24 db per octave in Bridged Mode)

**Subwoofer Output**
Low Pass filtered at 200 Hz with a 6db per octave slope (level variable ±12db when using optional McIntosh External Subwoofer Rotary Control)

**Intermodulation Distortion**
Maximum Intermodulation Distortion if instantaneous peak output per channel does not exceed twice the rated output, for any combination of frequencies from 20Hz to 20,000Hz, with all channels operating is:
0.005% for 4 ohm loads
0.007% for 2 ohm loads
0.007% for Bridged Mode with 4 ohm loads

**Input Impedance**
12,000 ohms

**Power Requirements**
12 Volts DC, 3.5 amps (idle) - 70 amps (100 watts)

**Dimensions**
12.25 inches (31.1 cm) wide, 3.0 inches (7.6 cm) high, 18.4 inches (46.7cm) depth

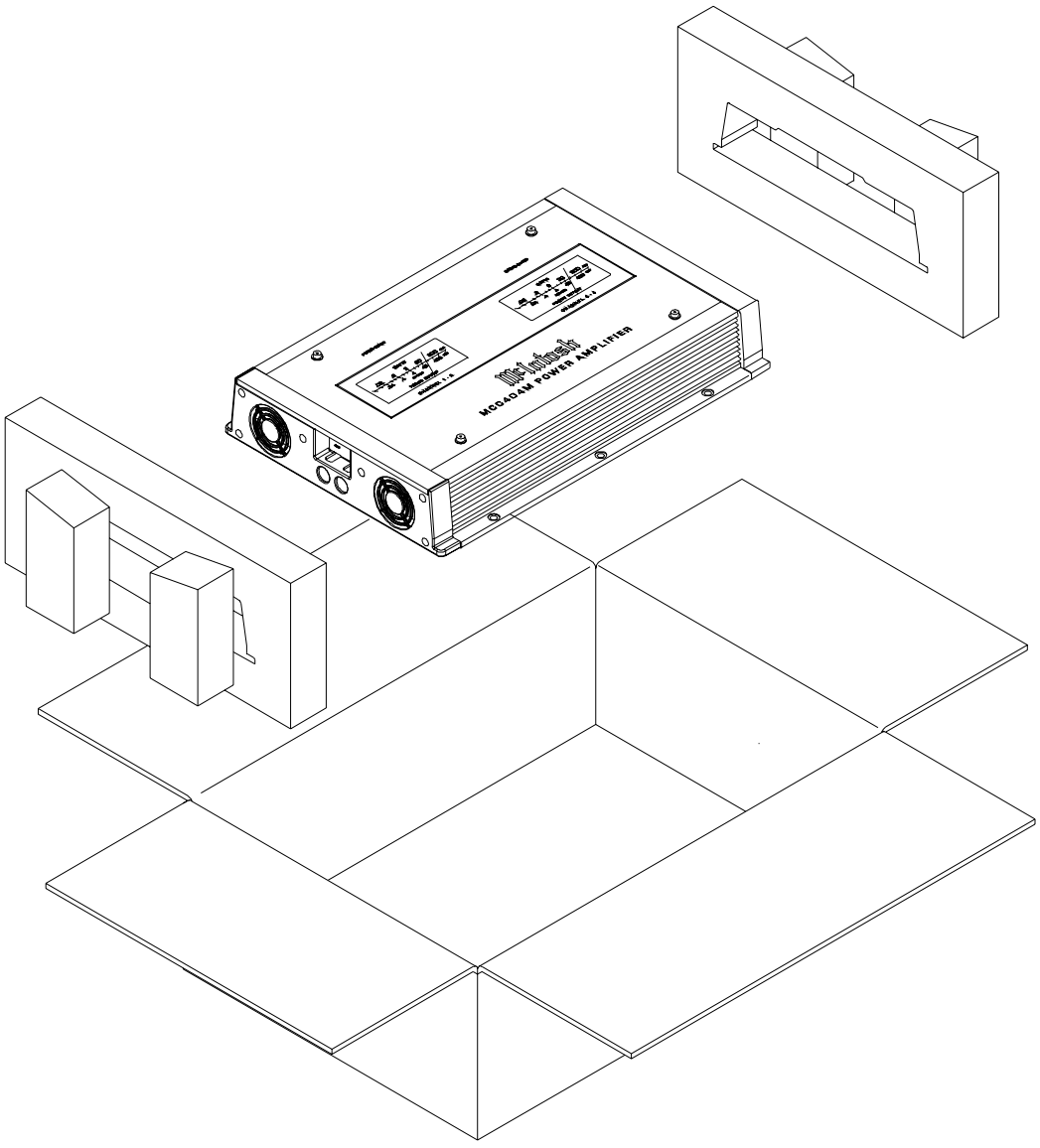
**Weight**
20.2 pounds (9.2 Kg) net, 23.2 pounds (10.5 Kg) in shipping carton

## Packing Instructions

In the event it is necessary to repack the equipment for shipment, the equipment must be packed exactly as shown below, failure to do so will result in shipping damage. Make sure that the Top Glass Panel is firmly secured to the chassis using the supplied hex head screws.

Use the original shipping carton and interior parts only if they are all in good serviceable condition. If a shipping carton or any of the interior part(s) are needed, please call or write Customer Service Department of McIntosh Laboratory. Please see the Part List for the correct part numbers.

| Quantity | Part Number | Description |
|---|---|---|
| 1 | 033775 | Shipping carton only |
| 2 | 034132 | End cap (Foam pad) |



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